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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SACHIN GARG and MARTIN KAPPES

Appeal 2009-007754
Application 10/662,724
Technology Center 2400

Before JAY P. LUCAS, JOHN A. JEFFERY, and JAMES R. HUGHES, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-12. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Appellants invented a method and excisor for lessening congestion in a telecommunications network. *See generally* Spec. 1, 3. Claim 1 is reproduced below with the key disputed limitations emphasized:

1. A method comprising:

receiving a first plurality of protocol data units at a first input of a protocol-data-unit excisor, wherein all of the protocol data units received at said first input are en route to a first congestible node;

receiving at said protocol-data-unit excisor a metric of a queue in said first congestible node (emphasis added); and

selectively dropping, at said protocol-data-unit excisor, one or more of said first plurality of protocol data units based on said metric of said queue in said first congestible node.

The Examiner relies on the following as evidence of unpatentability:

Lyon	US 6,333,917 B1	Dec. 25, 2001

THE REJECTION

The Examiner rejected claims 1-12 under 35 U.S.C. § 102(b) as anticipated by Lyon. Ans. 3-10.[2]

THE CONTENTIONS

Regarding claim 1, the Examiner finds that Lyon discloses all recited limitations, including mapping column fourteen, lines fifty-five through sixty-five and column six, lines seven through nineteen to the recited queue

[2] Throughout this opinion, we refer to (1) the Appeal Brief filed April 28, 2008 and (2) the Examiner's Answer mailed July 11, 2008.

metric in the first congestible node. Ans. 3. Appellants argue that Lyon fails to disclose an indication of congestion in the congestible node is received by the protocol-data-unit excisor. Br. 20.

The issue before us, then, is as follows:

ISSUE

Under § 102, has the Examiner erred in rejecting claim 1 by finding that Lyon discloses receiving at an excisor a queue metric in the first congestible node?

FINDINGS OF FACT

1. A congestible node is "a network node (*e.g.* a switch, router, access point, *etc.*) that is susceptible to dropping protocol data units." Spec. 2, ¶ 0008.

2. Lyon discloses a diagram of a high level network 20 having a switch 22 with queue 24 and end system or nodes A, A', B, and B' that serve as sources and sinks for network traffic. The traffic on the network can be bidirectional. Lyon, col. 5, l. 57 - col. 6, l. 18; Fig. 2.

3. Lyon discloses a Random Early Detection (RED) system 44 that includes a switch fabric 46 and line card 48. Packets are transmitted from a source 50 as an "offered load" to switch fabric 46 of a RED+ system. The switch fabric 46 and line card 48 have a buffer or queue (54, 56), drop/tag section (58, 60), and RED+ engine (62, 64). Lyon, Abstract; col. 1, l. 10, col. 6, ll. 36-49; Fig. 4.

4. Lyon discloses how a connection is selected within a marking decision generator 76 of the RED+ engine 62 or 64. The connection's

selection function waits for a new packet to arrive at step 120. When the packet arrives, the selector updates a connection metric (e.g., the number of packets for the connection that have arrived since the last time a packet on the connection was marked) at step 122. The marking generator 74 observes queue dynamics, such as queue fill or some other congestion measure, to determine which packets (e.g., current packet, queued packet, a packet yet to arrive) should be marked. Lyon, col. 8, l. 60 - col. 9, l. 5; col. 14, ll. 54-62; Figs. 5, 11.

5. Lyon discloses the RED+ system supports connection weights that allow customization of each connection's treatment. Based on different client's premium or tariff class (i.e., one is paying more for better service), RED+ can defer selection of a connection based on weight. For example, if a premium customer's connection has a higher weight, that connection can be exempt from selection or the selection can be deferred by dropping packets of a lower class customer. Lyon, col. 17, ll. 50-61.

6. Lyon notes that the RED+ system improves congestion control by notifying the source to slow down its transmission rate using feedback path 70. Lyon, col. 6, ll. 46-49, 60-65; Fig. 4.

ANALYSIS

Based on the record before us, we find error in the Examiner's anticipation rejection of independent claim 1 which calls for, in pertinent part, receiving at an excisor a queue metric in the first congestible node. As recited, the congestible node is a node (e.g., switch, router, or access point) (FF 1) where all the protocol data units received at the excisor's first input are en route or where the packets will be sent. Thus, consistent with claim 1,

the congestible node must follow the excisor in Lyon's RED+ system circuitry (FF 3), while the excisor must receive a queue metric in the congestible node.

The Examiner has mapped Lyon's switch fabric 46 (FF 3) to the recited "excisor" (*see* Ans. 3, 11, 12), and any of the system nodes A, B, A', and B' (FF 2) to a "congestible node" (*see* Ans. 3, 12). Additionally, as the Examiner explains (Ans. 11), the switch fabric 46 has a queue 54 for receiving packets from sources (FF 3), and the packets leave the switch for destinations or nodes. This fabric or "excisor" 46 thus receives packets at a first input (e.g., at queue 54) en route to a congestible node, such as destination node A, B, A', or B', as recited in claim 1. But any queue metric (e.g., queue dynamics, connection metric) received by this switch is not necessarily a queue metric in the first congestible node, namely the destination node (e.g., nodes A, B, A', B') that follows this excisor 46. *See* FF 4.

For example, Lyon discloses how a marking generator 74 of the switch fabric's RED+ engine 62 determines which packets on a connection to mark or select for tagging. *See* FF 4. These packets originate from source 50 as an offered load. *See* FF 3. The generator 74 thus receives a packet, which is originally from a source node, and any connection metric or a metric about the number of packets that arrive at a connection, since the last time a packet on a connection was marked will relate to a connection between a source 50 and the switch fabric 46. *See* FF 3-4. This metric therefore relates to packets on a connection between the source node and switch fabric, and is not a queue metric in the first congestible node, namely a node that follows the excisor. As another example, Lyon uses a queue

dynamic to determine which packets to mark. *See* FF 4. But this disclosed queue metric relates to packets (e.g., current or queued packet) going through the switch fabric queue or a switch fabric's queue metric (*see id.*) – not a queue metric in the first congestible node as recited in claim 1.

Additionally, the Examiner relies on Lyon's disclosure of traffic being bidirectional (FF 2) to disclose receiving a queue metric in the congestible node. *See* Ans. 3, 12. The Examiner's position in this regard, however, is somewhat unclear. The Examiner seemingly takes the position that a node in Lyon (e.g., node A) acts as both source and destination in a single embodiment. Thus, the excisor (e.g., switch fabric 46) receives information from a congestible node for which the packets are on route since the node (e.g., node A) acts as both the source and destination. And when the node updates the connection metric, Lyon's excisor also receives a connection metric related to the congestible node since this metric also measures the number of arrived packets for a connection between the node and the switch fabric. However, we find this position dubious on this record, for the Examiner has not adequately explained how this arrangement necessarily demonstrates the excisor receives a *queue* metric in the congestible node. Nor will we speculate in this regard in the first instance here on appeal. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Moreover, this arrangement would nullify the need for Lyon's feedback path 70. *See* FF 6. We therefore will not speculate in this regard any further in the first instance on appeal.

The Examiner additionally refers to column seventeen, lines fifty through sixty-one of Lyon. Ans. 12-13. This portion of Lyon discusses the RED+ system treating clients differently depending on their class. FF 5.

For example, Lyon notes that a premium customer (e.g., a user who pays for better service) will be weighted higher such that this customer's packets will be less likely to be dropped. *See id.* Although this metric reflects information (e.g., user's class) about a user's node that may follow the switch fabric (i.e., a congestible node), this metric relates to the user's class. The Examiner has thus not demonstrated this metric is necessarily a *queue* metric in the first congestible node as recited in claim 1.

We are therefore persuaded that the Examiner erred in rejecting (1) independent claim 1; (2) independent claims 4, 7, and 10 which recite commensurate limitations; and (3) claims dependent thereon for similar reasons. Since this issue is dispositive of our reversal of the Examiner's rejection, we need not address Appellants' other arguments (Br. 17-19).

CONCLUSION

The Examiner erred in rejecting claims 1-12 under § 102.

ORDER

The Examiner's decision rejecting claims 1-12 is reversed.

REVERSED

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